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Workers Compensation Fund

Best Practices in Safety

AIHA/ANSI Z-10-2005
Standard for Occupational Health and Safety Management Systems
Presented by

(AIHA/ANSI Z-10-2005 excerpts used by permission)

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Objectives:

- "Best Practices" Defined
- Outline and Review the Z-10 Standard
- Auditing Health & Safety Management Systems based on the Z-10 Standard
- Closing the Gap – Making the system work

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"Best Practices"

- What does "Best Practices" mean?

?

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"Best Practices" Defined:

From Wikipedia:

- Best practices can be defined as the most efficient (least amount of effort) and effective (best results) way of accomplishing a task, based on repeatable procedures that have proven themselves over time for large numbers of people.

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"Best Practices" Defined:

Best Practices is a philosophical approach based around continuous learning and continual improvement.

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Business Buzz Words

- Best Practices
- World Class
- Total Quality Management
- Industry Best Practice
- Change Management
- Six Sigma
- Benchmarking
- Continuous Improvement

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Why so many improvement initiatives?

- Increase productivity
- Ensure quality product
- Engender customer confidence & loyalty
- Why are companies in business?

To Make $$$$!!

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How does Safety affect a business's ability to make money?

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How does a company make money?

Money in
– Money out
= Profit $$$

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How does a company make money?

Money in
– Money out
= Profit $$$

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Money Out

- Salaries
- Other Overhead
- Materials
- New product development & research
- Etc....

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Money Out as it Relates to Safety

- Workers Compensation Premiums
- Medical Costs
- Equipment damage Costs
- Cost of lost production
- Cost of training replacement workers
- Cost of turnover
- Cost of time to fill out accident paper work
- Legal costs
- Poor morale
- OSHA citations/penalties

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Money Out as it Relates to Safety

Accident Costs (dollars)	Company Profit Margin				
	2%	4%	6%	8%	10%
$10,000	500,000	250,000	167,000	125,000	100,000
$20,000	1,000,000	500,000	333,000	250,000	200,000
$50,000	2,500,000	1,250,000	833,000	625,000	500,000
$75,000	3,750,000	1,875,000	1,250,000	938,000	750,000
$100,000	5,000,000	2,500,000	1,667,000	1,250,000	1,000,000
$500,000	25,000,000	12,500,000	8,333,000	1,250,000	1,000,000
$1 million	50,000,000	25,000,000	16,667,000	12,250,000	10,000,000

Sales Necessary to Offset the Cost of Accidents and Injuries at Different Profit Margins.

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Cost of Injuries Based on Cost of Insurance

- You can calculate the amount of sales needed to pay for premiums:

$$\frac{\text{Cost of WC Insurance}}{\text{\% Profit Margin}} = \text{\$ Needed in Sales}$$

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Example

- $400,000 premium cost
- 10% profit margin

$$\frac{\$400,000 \text{ in premiums}}{0.10} = \$4 \text{ Million in Sales}$$

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Best Practices in Safety??

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Best in Class (Safety)
Industrial Hygiene & Safety News Poll:

1. DuPont
2. 3M
3. Alcoa
4. Dow
5. GE
6. Ford
7. GM
8. IBM
9. British Petroleum
10. UPS

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GE VPP Program Video Clip

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SAFETY MANAGEMENT AWARDS 2006

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The "Best Practice" in Safety is:

- **To integrate safety into the business management system of the company.**
- **Give equal consideration to injury prevention as to quality or productivity.**
- **Implement management systems using current scientific and technological knowledge that prevent accidents and injuries.**

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Self Rating Exercise

See "Safety Program Evaluation" handouts.

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Safety Program Evaluation

Policy Name: _____   Contact: _____

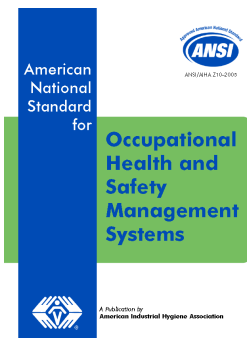| Safety Program Elements	P	F	G	E	Corrective Action:	Date:
1- Management Support						
2- Assignment of Responsibilities						
3- Safety Committee						
4- Hazard I.D. & Control						
5- Employee & Supervisor Training						
6- Incident Reporting & Emergency Planning						
7- Return to Work						

P = Poor F = Fair G = Good E = Excellent

Date: _____   Safety Consultant: _____

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Program Element	Poor	Fair	Good	Excellent
1- Management Support	No management direction – Top management does not participate in safety & health activities or actively review status of the safety program.	Top management recognizes safety & health as important but is inconsistently involved. No clearly defined expectations of managers and employees regarding safety responsibilities.	Top management recognizes safety & health as a good business practice. A designated safety manager is in place at a management level with overall organizational decision authority. Top management remains visibly involved.	Top management values safety and is visibly and frequently involved in safety activities. In addition to "good", Safety & Health management is organizationally next to key decision makers. Safety performance is measured and linked to compensation.
2- Assignment of Responsibility	No person in the organization with safety as a responsibility.	A person is assigned to safety formally, but has other assignments with higher priority. Minimal training with reactive, enforcement mentality	Safety responsibility formally assigned to a person as primary role with some formal training or coaching provided. Supervisors have specific duties in regard to safety. Some authority to spend resources is given.	A well trained safety director with a clear job description is in place. Supported in the organization by clear management goals. Safety is "everyone's" responsibility with all key executives involved.
3- Safety Committee	No safety committee in place.	Safety Committee may have been organized but meetings are undocumented and irregular. Members serve informally with no clear duties outlined and no supervision by top management.	Safety committee meets regularly with agendas and published minutes. The committee reviews loss trends, accident investigations and self-inspections during their meetings. A member of management chairs or attends the meeting periodically.	In addition to "good" the committee is actively involved in safety training plans, safety goal setting, hazard identification and other safety promotional activities. Top management is frequently involved.
4- Hazard Identification & Control	No programs to identify hazards. No hazard controls. Poor housekeeping& practices.	Informal hazard I.D. & control. Controls implemented on an as needed basis or in reaction to accidents.	Employees are encouraged to report hazards & rewarded by the management system. Regular self inspections are conducted by assignment and documented.	In addition to "good" formal hazard identification & control tools are used in work operations such as Job safety analysis, RULA, etc. results are reviewed by Top Management.
5- Employee & Supervisor Training	No formal training. On the job training. No formal safety training	Basic safety orientation when hired. No task specific training. Occasional safety meetings.	Specific employee orientation, including safety training. Safety training on an annual basis. 1/4ly safety meetings.	Very specific new employee training. Employee must demonstrate proficiency prior to work assignment. Regular safety meetings." Train the trainer" program for all supervisors.
6- Incident Reporting & Emergency Response	No formal requirement for incident reporting. No emergency plan. No accident investigation.	Employees instructed to report incident with a basic company policy to "report to supervisor". Limited emergency information posted. Some accident investigation performed.	Company policy to report accidents & incidents ASAP. Emphasized during new employee orientation. Emergency procedures well documented. Formal accident investigation procedures with a requirement to investigate significant incidents.	Formal incident reporting system includes "near miss" reporting. Strong company policy requiring ASAP reporting. Advanced claims management practices. Formal emergency response procedures including business interruption planning. Formal incident investigation with "root cause analysis". Upper management evaluates incidents as part of business planning.
7- Return to Work	No PPO use. No effort directing personnel back to work. No formal contact with injured worker.	Use PPO network. Developed relationships with medical provider. Some effort towards RTW. No formal program. Limited contact with injured worker.	PPO use. Developed relationship with medical providers. Basic written RTW policy. Modified duty positions selected. Supervisors attend physician visits. RTW program demonstrated by claims review	PPO use. Detailed relationship with med. providers includes identified modified duty positions. Customized RTW program with written job descriptions. RTW agreement detailed in a RTW contract with injured worker. Consisted RTW practices as demonstrated in claims review.

4

The Z-10 Standard:

American National Standard for

ANSI
ANSI/AIHA Z10-2005

Occupational Health and Safety Management Systems

A Publication by
American Industrial Hygiene Association

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The Z-10 Standard:

Figure 2 — OHSMS Cycle

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The Z-10 Standard:

- Policy
- Processes
- Job Instruction
- Documents
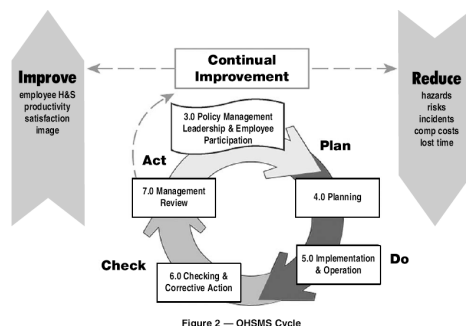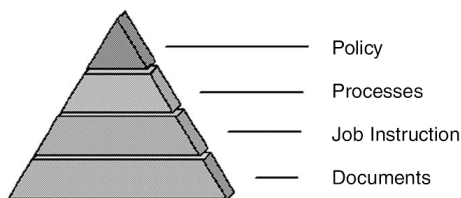
Typical Layers of Management System Implementation

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The Z-10 Standard:

- Voluntary Standard
- Requirements using the word *shall* are in the left column
- Recommended practices using the word should, and explanatory notes are in right column
- Appendices provide assistance, examples, references, guidelines
- Z-10 is designed to be integrated with quality, environmental, and other management systems

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The Z-10 Standard:
1. Scope, Purpose, & Application:

- Defines *minimum* requirements for occupational health and safety management systems (OHSMS)"
- Purpose "...is to provide a management tool to reduce the risk of occupational injuries, illnesses, and fatalities."
- Applies to businesses of all sizes and types.
- Designed to continually improve safety and health performance

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The Z-10 Standard:
2. Definitions:

Just a few -
- Compliance
- Conformance vs. Nonconformance
- Exposure Assessment
- Occupational Health Assessment
- Corrective Action vs. Preventive Action
- Risk

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5

The Z-10 Standard:
3. Management Leadership & Employee Participation:

3.1.1 Top management shall direct, establish, implement and maintain an OHSMS

3.1.2 Written OHS Policy that includes 4 basic areas of commitment

– Officially authorized/endorsed by **Top Management**

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4 Basic Areas Of Commitment To Be Included in OHS Policy:

1. Protection & Continual improvement of employee health & safety;
2. Effective employee participation;
3. Conformance with the organization's health & safety requirements;
4. Compliance with applicable laws & regulations

Note: Example policy statement is included in Appendix A of the Z-10 Standard.

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The Z-10 Standard:
3. Management Leadership & Employee Participation:

3.1.3 Responsibility & Authority:

• **Top management** provides leadership and assumes overall responsibility (See Appendix B for example of roles and responsibilities).

3.2 Employee Participation:

• Organization to establish processes to ensure effective participation of employees at all levels (See Appendix C for examples to encourage employee participation).

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Barriers to Employee Participation

• Incentive programs
• Drug testing programs
• Disciplinary programs
• All should be carefully designed and implemented!!

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The Z-10 Standard:
4. Planning

• Defines planning requirements to identify and prioritize OHSMS issues (i.e. hazards, risks, system deficiencies, and opportunities for system improvement).

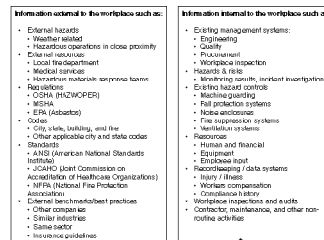4.1 Initial & Ongoing Reviews
See Appendix D of the Standard

• Brainstorm on internal and external factors.

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Initial & Ongoing Review
(Appendix D, 32)

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4.1.1 Initial Review

- Relevant business management systems
- Hazards, risks, controls
- Resources
- Applicable regulations, standards, and other health & safety requirements
- Assessments
- Other relevant activities (contractor, maintenance, & non-routine operations, etc.)

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The Z-10 Standard:
4. Planning

- **4.2 Assessment & Prioritization**
  - See Appendix E of the Standard for Risk Assessment Guide

Must assess risk to prioritize!

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The Z-10 Standard:
4. Planning

- **4.2 Assessment & Prioritization**
  - After risk assessment, issues should be prioritized by considering:
    - Level of risk
    - Potential for system improvements
    - Compliance with standards and regulations
    - Feasibility
    - Business consequences

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Risk Assessment Matrix - Appendix E, Page 35 of Z-10 Standard

Likelihood of OCCURRENCE or EXPOSURE For selected Unit or Time or Activity	Severity of Injury or Illness Consequence and Remedial Action			
	CATASTROPHIC Death or permanent total disability	**CRITICAL** Disability in excess of 3 months	**MARGINAL** Minor injury, lost workday accident	**NEGLIGIBLE** First Aid or Minor Medical Treatment
Frequent Likely to Occur Repeatedly	**HIGH** Operation not permissible	**HIGH** Operation not permissible	**SERIOUS** High Priority Remedial action	**MEDIUM** Take Remedial action at appropriate time
Probable Likely to occur several times	**HIGH** Operation not permissible	**HIGH** Operation not permissible	**SERIOUS** High Priority Remedial action	**MEDIUM** Take Remedial action at appropriate time
Occasional Likely to occur sometime	**HIGH** Operation not permissible	**SERIOUS** High Priority Remedial action	**MEDIUM** Take Remedial action at appropriate time	**LOW** Risk Acceptable Remedial Action Discretionary
Remote Not likely to occur	**SERIOUS** High Priority Remedial action	**MEDIUM** Take Remedial action at appropriate time	**MEDIUM** Take Remedial action at appropriate time	**LOW** Risk Acceptable Remedial Action Discretionary
Improbable Very unlikely — may assume exposure will not happen	**MEDIUM** Take Remedial action at appropriate time	**LOW** Risk Acceptable Remedial Action Discretionary	**LOW** Risk Acceptable Remedial Action Discretionary	**LOW** Risk Acceptable Remedial Action Discretionary

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Another Example: **Risk Assessment Matrix**

Policyholder: _____

Job Description: _____
_____
_____
_____

Number of Workers Exposed: _____

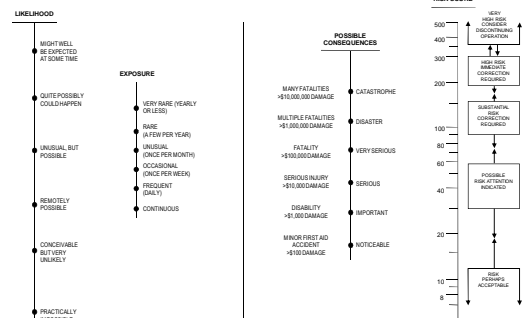| Hazard Severity	Hazard Probability			
	Likely	Probable	Possible	Unlikely
May Cause Death, Loss of Facility $100,000+	1	1	2	3
May Cause Severe Injury, Illness or Property Loss $50-99,000	1	2	3	4
May Cause Minor Injury, Illness or Property Loss $1000 -49,000	2	3	4	5
Presents Minimal Injury, Illness or Property Loss	3	4	5	5

Risk Assessment Code: 1. Critical   2. Serious   3. Moderate
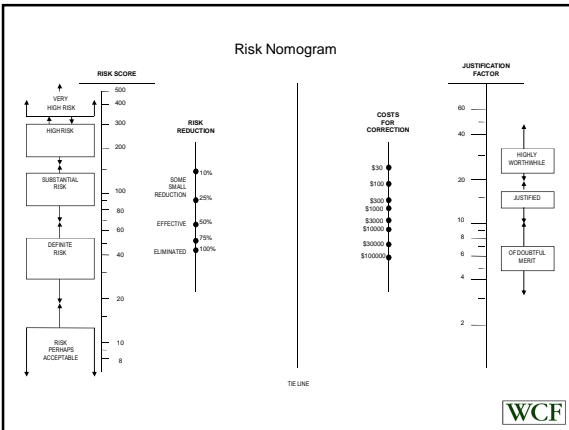4. Minor   5. Negligible

Recommendation: _____
_____
_____

Date: _____   Consultant: _____

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Risk Nomogram

LIKELIHOOD	EXPOSURE	POSSIBLE CONSEQUENCES		RISK SCORE
MIGHT WELL BE EXPECTED AT SOME TIME		MANY FATALITIES >$10,000,000 DAMAGE	CATASTROPHE	500 — VERY HIGH RISK CONSIDER DISCONTINUING OPERATION
	VERY RARE (YEARLY OR LESS)			400 / 300
QUITE POSSIBLY COULD HAPPEN		MULTIPLE FATALITIES >$1,000,000 DAMAGE	DISASTER	200 — HIGH RISK IMMEDIATE CORRECTION REQUIRED
	RARE (A FEW PER YEAR)			
UNUSUAL, BUT POSSIBLE	UNUSUAL (ONCE PER MONTH)	FATALITY >$100,000 DAMAGE	VERY SERIOUS	100 — SUBSTANTIAL RISK CORRECTION REQUIRED
	OCCASIONAL (ONCE PER WEEK)	SERIOUS INJURY >$10,000 DAMAGE	SERIOUS	80 / 60
REMOTELY POSSIBLE	FREQUENT (DAILY)			40 — POSSIBLE RISK ATTENTION INDICATED
	CONTINUOUS	DISABILITY >$1,000 DAMAGE	IMPORTANT	
CONCEIVABLE BUT VERY UNLIKELY		MINOR FIRST AID ACCIDENT >$100 DAMAGE	NOTICEABLE	20
				10 / 8 — RISK PERHAPS ACCEPTABLE
PRACTICALLY IMPOSSIBLE				

TIE LINE

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7

Risk Nomogram

RISK SCORE

VERY HIGH RISK — 500, 400, 300, 200

HIGH RISK

SUBSTANTIAL RISK — 100, 80, 60

DEFINITE RISK — 40

RISK PERHAPS ACCEPTABLE — 20, 10, 8

RISK REDUCTION
SOME SMALL REDUCTION — 10%, 25%
EFFECTIVE — 50%, 75%
ELIMINATED — 100%

TIE LINE

COSTS FOR CORRECTION
$30
$100
$300
$1000
$3000
$10000
$30000
$100000

JUSTIFICATION FACTOR
60, 40, 20, 10, 8, 6, 4, 2

HIGHLY WORTHWHILE
JUSTIFIED
OF DOUBTFUL MERIT

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Risk Assessment Exercise

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The Z-10 Standard: 4.3 Objectives

- Based upon priorities developed from assessment & prioritization
- Focused on system improvements
- Consistent with organizations OHS policy
- Set, reviewed, and modified regularly
- Modified according to changing information and conditions

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The Z-10 Standard: 4.3 Objectives

- See Appendix F

Specific
Measurable
Actionable
Realistic
Time-oriented

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OBJECTIVES	TIMELINE	RESPONSIBLE AUTHORITY
HAZARD COMMUNICATION		
• Distribute approved policy	Q1-04	RM-CGL
• Review site specific SOPs for policy compliance	Q2-04	RM-SS
• Train on policy	Q1-04	RM-SS
• Review chemical approval process	Q3-04	RM-ML
• Install monitors for automated MSDS availability in operations	Q2 & Q3-04	RM-ML
PROCUREMENT		
• Distribute approved policy	Q1-04	RM-CGL
• Train on policy and procurement procedure	Q1-04	RM-SS
• Distribute safety requirements to be included in standard contracts	Q1-04	RM-ED
TRAINING		
• Improve training system based on last year's evaluation	Q4-03	RM-SS
• Review training schedule	Q4-03	RM-SS
INSPECTION/TESTING		
• Develop matrix for all required safety inspections/test	Q1-04	RM-CGL
• Determine who is primary inspection authority	Q1-04	RM-CGL
• Develop inspection test criteria	Q1 to Q4	RM-ALL
INCIDENT INVESTIGATION PROCEDURE		
• Determine who must be trained in Incident Investigation	Q1-04	RM-CGL
• Train managers in Incident Investigation	Q1 to Q2-04	RM-SS
• Review Incident Investigation report form	Q1-04	RM-SS/ED
• Develop causal analysis system	Q3-04	RM-SS/ED
• Implement new department	Q2-05	RM-SS/ED
LOCKOUT/TAGOUT		
• Introduce new policy	Q4-03	RM-CGL
• Review site SOPs for policy compliance	Q1-04	RM-SS
• Train employees in new policy	Q2-04	RM-SS
• Review lockout methods/locations	Q1-04	RM-ED

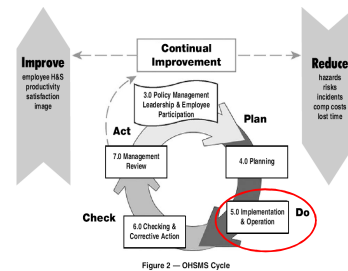WCF

SMART Objectives Exercise:

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8

The Z-10 Standard:
4.4 Implementation Plans & Allocation of Resources
(Appendix F, p. 39)

- Plans shall define resources, responsibilities, timeframes, intermediate steps, and measurements of progress.
- Assign resources to achieve the objectives.

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The Z-10 Standard:
5.0 Implementation & Operation

Figure 2 — OHSMS Cycle

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The Z-10 Standard:
5.1 OHSMS Operational Elements

5.1.1   Hierarchy of Controls

5.1.2   Design Review & Management of Change (MOC)

5.1.3   Procurement

5.1.4   Contractors

5.1.5   Emergency Preparedness

DO!

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5.1.1 Hierarchy of Controls (Appendix G, p.41)

	CONTROLS	EXAMPLES
Most Effective	1) Elimination	• Design to eliminate hazards, such as falls, hazardous materials, noise, confined spaces, and manual material handling
	2) Substitution	• Substitute for less hazardous material • Reduce energy. For example, lower speed, force, amperage, pressure, temperature, and noise.
	3) Engineering Controls	• Ventilation systems • Machine guarding • Sound enclosures • Circuit breakers • Platforms and guard railing • Interlocks • Lift tables, conveyors, and balancers
	4) Warnings	• Signs • Backup alarms • Beepers • Horns • Labels
	5) Administrative Controls	Procedures • Safe job procedures • Rotation of workers • Safety equipment inspections • Changing work schedule Training • Hazard Communication Training • Confined Space Entry
Least Effective	6) Personal Protective Equipment	• Safety glasses • Hearing protection • Face shields • Safety harnesses and lanyards • Gloves • Respirators

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5.1.1 Hierarchy of Controls (continued)

Must take into account:
- Nature & extent of risks
- Degree of risk reduction desired
- Requirements of applicable regulations
- Recognized "BEST PRACTICES" in industry
- Available Technology
- Cost-effectiveness
- Internal organization standards

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5.1.2 Design Review & Management of Change (MOC)

- Prevent or control hazards and reduce potential risks associated with:
  - New processes or operations at the design stage
  - Changes to existing operations, products, services, or suppliers

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9

5.1.2 Design Review & Management of Change (MOC)

- Process for design reviews and MOC shall include:
  - Identification of tasks & related health & safety hazards
  - Consideration of hazards associated with human factors (i.e. characteristics & capabilities of humans)
  - Consideration of control measures (control hierarchy)
  - Review of applicable regulations, codes, standards
  - Determination of appropriate scope and degree of the design review and MOC

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Change Management Analysis

Company/Division/Department: _____

Description of Change: _____
_____
_____
_____

Target Date for Change Implementation: _____

Members of Hazard Assessment Team (Must include representation from safety staff, line operator and supervisor at a minimum) _____
_____

Date of Team Review: _____

Potential Hazards to Employees/Property/Environment in order of Priority (Attach Z10 Risk Assessment Matrix for Each Hazard)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Mitigation Strategy for each Identified Hazard (Elimination, Substitution, etc):
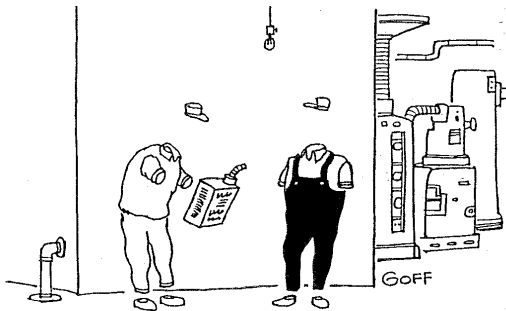
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Management Review By: _____ Approved on: _____
Signature: _____

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5.1.3 Procurement

I told you we should have read the MSDS!

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5.1.3 Procurement

- Identify & evaluate H & S risks associated with purchased goods before introduction into work environment.
  - Chemicals
  - Equipment & Machinery
  - Raw materials
- Establish requirements to control potential H & S risks.
- Ensure purchased goods conform to the organization's H & S requirements.

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5.1.4 Contractors

- Establish & implement processes to identify safety and health risks:
  - To the organizations employees from contractors planned and unplanned activities
  - To the contractors' employees from the organization's activities
  - Shall include contractor health and safety performance criteria
- Process for coordinating OHSMS with other organizations on multi-employer worksites.

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5.1.5 Emergency Preparedness

10

5.1.5 Emergency Preparedness

- Process to prevent, prepare for, and/or respond to emergencies, including
  - Plans to prevent and minimize risks from potential emergencies
  - Periodic testing of plans through drills
  - Plan and procedure evaluation and update

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5.2 Education, Training, Awareness & Competence

Establish processes to:
- Define & assess OHSMS competence needed for employees & contractors.
- Ensure OHSMS competence of employees and contractors through education, training or other methods.
- Ensure access to & remove barriers to participation in education and training
- Ensure training is provided in language trainees can understand
- Ensure competent trainers.

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5.2 Education, Training, Awareness & Competence (continued)

- Training for engineers in safety design
- Training in incident investigation and audits
- Training for procurement personnel on impact of purchasing decisions
- Training of others involved with the identification of OHSMS issues, methods or prioritization, and controls.

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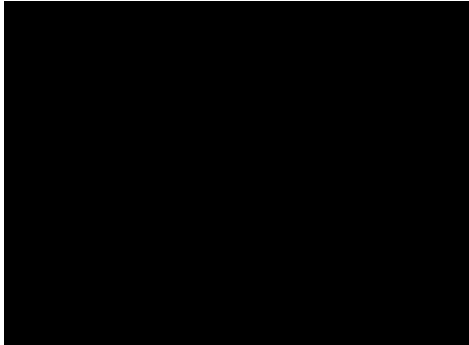

5.3 Communication

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5.3 Communication

- Establish and implement processes to:
  - Communicate info about OHSMS & implementation plan progress to all affected levels or the organization.
  - Achieve prompt employee reporting of injuries, illnesses, incidents, hazards, risks.
  - Encourage employees to make recommendations regarding hazard control & reporting procedures
  - Identify & remove barriers to all of the above.

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11

5.3 Communication
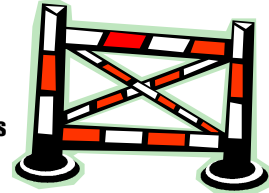

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5.3 Communication

- Examples of Barriers to Communication:
  - Illiteracy
  - Language barriers
  - Fear of reprisal
  - Incentive programs
  - Drug testing programs
  - Discrimination

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5.4 Document & Record Control Process

Process to create and maintain documents and records specified by the OHSMS in order to:

1. Implement an effective OHSMS
2. Demonstrate or assess conformance with requirements of this standard

ABC & Co. OHSMS

Training Records

Controlled Document

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5.4 Document & Record Control Process

- The process shall require that:
  - OHSMS identifies documents that need to be controlled. These documents shall be reviewed and updated as necessary, with dates of revision.
  - Documents/records are legible, readily identifiable and accessible, protected from damage, deterioration, or loss and retained for specified period.

Controlled Document

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5.4 Document & Record Control Process

Explicitly requires documentation of:

- OHS Policy (Section 3.1.2)
- Objectives (Section 4.3)
- Implementation Plan (Section 4.4 A)
- Audits (Section 6.3)
- Management Reviews (Section 7)

ABC & Co. OHSMS

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5.4 Document & Record Control Process

Examples of Documents & Records:

- Training records
- Procedures
- Policies
- Purchasing records
- MSDS

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6.0 Evaluation & Corrective Action

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Evaluation & Corrective Action



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6.0 Evaluation & Corrective Action

Purpose of this section:
- Defines requirements for processes to:
  - Evaluate performance of OHSMS
  - Take corrective action when non-conformance is found
  - Include results of evaluation activities as part of the planning process and management review

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6.0 Evaluation & Corrective Action

- 6.1 Monitoring, Measurement, and Assessment
- 6.2 Incident Investigation
- 6.3 Audits
- 6.4 Corrective and Preventive Actions
- 6.5 Feedback to the Planning Process


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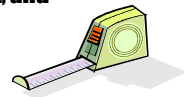
6.1 Monitoring, Measurement, & Assessment

- Should develop predictive or "leading" performance indicators or measures.
  - Examples: non-conformances found during inspections, rate and timeliness of corrective actions, completion of required maintenance, or completion of required training.
- Leading indicators can be used in combination with injury & illness data (trailing indicators) to determine the effectiveness of the OHSMS.

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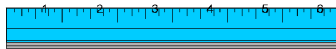
6.1 Monitoring, Measurement, & Assessment

- Workplace inspections & testing
- Exposure assessment
- Injury, illness, and incident tracking
- Employee input
- Occupational health assessment
- Other methods as required by the OHSMS
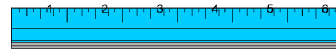
WCF

Workplace Inspections & Testing

- Checklists
- Group inspections
- Industrial hygiene air monitoring
- Corrective actions should be assigned and action taken with follow-up.

WCF

Exposure Assessment

- Ergonomic evaluations
- Look at injury & illness data
- Assess the substances, raw materials, and chemicals that may be used.
- Assess the mechanical, electrical, or other types of physical hazards present.

WCF

Injury, Illness, & Incident Tracking

- Should have a reporting procedure for all work related injuries, illnesses, and incidents
- Records should be kept including the OSHA 300 log

OSHA 300 Log
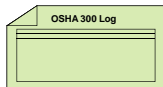
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Employee Input

- Employee/supervisor self-assessments
- Employee surveys (Perception surveys)
  – Must be anonymous
- Safety suggestion box
- Safety meeting discussions
- Barriers to employee input should be identified and eliminated

WCF

Occupational Health Assessments

- Medical examinations
- Biological monitoring (medical surveillance)
- Review of health records

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6.2 Incident Investigation
Appendix H

- Process to investigate and analyze reported work-related incidents
- Purpose is to determine underlying deficiencies in OHSMS and other factors causing or contributing to occurrence
- Investigations shall be performed in a timely manner.
- All barriers for reporting incidents should be removed (see section 3.2 & 5.3)

WCF

6.2 Incident Investigation

- **What should be investigated?**
  - OSHA recordable
  - First aid injuries?
  - Near misses?
  - Motor vehicle accidents
- **Organization's OHSMS should have policy/procedure specifying what will be investigated and the level of investigation**
- **See Incident Investigation form example in Appendix H of the standard (p 43), also example forms in WCF Safety & Cost Control Guidebook.**

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Break!

WCF

6.3 Audits
(Appendix I (p.46)

I've already noticed some health & safety non-conformances here...

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6.3 Audits
(Appendix I (p.46)

- **Periodic audits**
- **"System" oriented rather than "compliance" oriented**
- **Purpose is to determine whether the organization has appropriately applied and effectively implemented OHSMS elements**
- **Any situation identified by the audit that may cause fatality or serious injury or illness must be immediately communicated and corrected.**

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6.3 Audits
(Appendix I (p.46)

- **Document & communicate audit results to:**
  - Those responsible for corrective & preventive action.
  - Area supervision.
  - Other affected individuals
    - Employees
    - Employee representatives
    - Contractors

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The Z-10 Audit

- **Z-10 Standard Sections**
- **Objective Evidence**
- **Documents**
- **Records**
- **Interviews**
- **Observations**

WCF

The Z-10 Audit

Objective Evidence				
OHSMS Section	Documents	Records	Interviewee	Observations
Management Leadership — OHSMS	• N/A	• E-mails or memos from Exec. Team regarding OHSMS	• Exec. Team, selected personnel designated with tasks to implement/ maintain OHSMS • Hourly employees	• Management tour of facility
OHSMS Policy	• Policy	• N/A	• Selected managers/ supervisors • Hourly Employees	• Policy postings
Responsibility and Authority	• Safe Operating Procedure (SOP) • OHSMS Manual	• Organization chart, budgets, and job descriptions • Qualifications for OHS leader and OHS team members • OHS Team meeting minutes	• Selected managers/ supervisors • Hourly employees	• Team meetings

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The Z-10 Audit

Objective Evidence				
OHSMS Section	Documents	Records	Interviewee	Observations
Employee Participation	• OHSMS procedures • Human Resource policies • Injury reporting procedure	• OHSMS Team roster and meeting minutes • Employee suggestions	• Selected managers/ supervisors • Hourly employees	• Team meetings, department meetings, job briefings, safety committee meetings
Initial and Ongoing Reviews	• Safe Operating Procedure (SOP) OHSMS issues	• Total and significant list of OHSMS issues • Job hazard analyses • Notes of reviews of relevant regulations and standards • Exposure data • Organization chart, budgets, and job descriptions • Audit reports-Incident investigation reports • Monitoring data-Safety inspection reports	• Selected managers/ supervisors • Hourly employees	• Tour facility, compare to OHSMS issues list
Assessment and Prioritization	• Safe Operating Procedure (SOP) OHSMS issues	• Total and significant list of OHSMS issues	• Selected managers/ supervisors/ engineers • Hourly employees	• Tour facility, compare to OHSMS issues list

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The Z-10 Audit

Objective Evidence				
OHSMS Section	Documents	Records	Interviewee	Observations
Objectives and Objective Implementation Plans	• Safe Operating Procedure (SOP) OHSMS Objectives	• Objective implementation plans • OHS Team minutes	• Selected managers/ supervisors/ engineers/EH&S Team members • Hourly employees	• Verification of OHSMS objective implementation (as applicable)
Hierarchy of Controls	• N/A	• Job hazard analyses and follow up-OHS Team meeting minutes • Facilities work orders • Engineering project logs • Employee suggestions	• Selected engineers and facilities personnel, OHS Team members • Hourly employees	• Tour facility, identify engineering controls, warnings, administrative controls, and PPE, compared to hazards identified and documents reviewed
Design Review and Management of Change	• Safe Operating Procedure (SOP) Product Development • Safe Operating Procedure (SOP) Facilities Management • Updated/revised documents based on design review meeting minutes and new/revised equipment approvals	• Design review meeting minutes-New and revised engineering design releases • Equipment approvals/releases • Facilities Work Orders	• Selected engineers and facilities personnel, including managers and supervisors • Hourly employees	• Design review meeting, new equipment
Procurement	• Safe Operating Procedure (SOP) Supplier Selection, Evaluation and Management	• Selected supplier self assessments • Selected supplier audits and ratings • Selected supplier contracts • Incoming product inspection records • Product risk analyses	• Selected supplier management personnel • Hourly employees	• Selected purchased products

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The Z-10 Audit

Objective Evidence				
OHSMS Section	Documents	Records	Interviewee	Observations
Contractors	• Safe Operating Procedure (SOP) Contractor Safety	• Selected contractor self assessments • Selected contractor audits and ratings • Selected contractor contracts • Correspondence with customers and other contractors on job sites • Contractor work-related injury/illness data • Relevant contractor incident investigation reports	• Selected supplier management managers/supervisors, selected on-site contractor managers/supervisors • Hourly employees	• Subcontractor jobs
Emergency Preparedness	• Safe Operating Procedure (SOP) Emergency Action Plan	• Drill reports	• Selected managers/ supervisors/ engineers • Hourly employees	• Drills, signage, maps, exits, designated shelters
Education, Training and Awareness	• Safe Operating Procedure (SOP) Communication and Training	• Electronic training records • Selected hardcopy training records and quizzes (based on interviews with managers/supervisors) • Training plans • Who requires training vs. who received	• Selected managers/ supervisors/ engineers • Hourly employees	• Physical observations to verify if practices are followed (as applicable)

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The Z-10 Audit

Objective Evidence				
OHSMS Section	Documents	Records	Interviewee	Observations
Communication	• Safe Operating Procedure (SOP) Communication and Training	• OHS intranet site • E-mails, memos, articles, posters, presentations	• Selected managers/ supervisors/ engineers/EH&S Team members • Hourly employees	• Bulletin board, posters, presentations
Document and Record Control Process	• Document Control Safe Operating Procedure SOP(s) • Safe Operating Procedure (SOP) Retaining Quality Related Documents and Records	• Selected document control history files • Selected records	• N/A	• Are documents readily available? Protected? Obsolete docs removed?

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The Z-10 Audit

Objective Evidence				
OHSMS Section	Documents	Records	Interviewee	Observations
Monitoring and Measurement	• Safe Operating Procedure (SOP) OHS Monitoring and Measurement	• List of parameters to monitor • Selected monitoring data	• Selected monitoring task owners • Hourly employees	• Monitoring and measurement equipment
Incident Investigation	• Safe Operating Procedure (SOP) Incident investigations	• Recent incident investigation reports (internal and relevant contractor) • Last 3 years' OSHA logs	• Selected managers/ supervisors/ engineers • Hourly employees	• Tour facility, compare to incident investigation action items.
Audits	• Safe Operating Procedure (SOP) OHS Management System Audit	• OHSMS and compliance audit reports	• OHS Team, Internal OHSMS Auditors (as applicable) • Hourly employees	• N/A
Corrective and Preventive Actions	• Safe Operating Procedure (SOP) Non-conformance and Corrective and Preventive Action	• Corrective and Preventive Actions (CAPAs) • Records that verify corrective/preventive actions	• Selected managers/ supervisors/ engineers • Hourly employees	• Physical observations to verify if corrective/preventive actions are implemented (as applicable)

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Slide 1

The Z-10 Audit

	Objective Evidence			
OHSMS Section	Documents	Records	Interviewee	Observations
Feedback to the Planning Process	• N/A	• Monitoring data and trending records • Incident investigation reports • OHS Objective Implementation Plans • Corrective and Preventive Actions (CAPAs) • Revised OHSMS Issue lists	• Selected managers/ supervisors/ engineers • Hourly employees	• N/A
Management Review (Process, Outcomes and Follow-Up)	• Safe Operating Procedure (SOP) OHSMS Management Review	• Management Review schedule/ agenda • Management Review minutes and presentation materials • Management Review action item follow-up and reports.	• Selected executive team members • Hourly employees	• N/A

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Slide 2

The Z-10 Audit

See Audit Criteria Guide
(in handouts)

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Slide 3

Audit Criteria Guide (Handouts)

OHSMS Section	Criteria:

Management Leadership
• OHSMS
• OHS Policy
• Responsibility & Authority
• Employee Participation
	• OHSMS under direction of top management
	• OHS policy established & documented by top management which includes
	  ○ protection & continual improvement of employee health & safety
	  ○ effective employee participation
	  ○ conformance with the organizations health & safety requirements
	  ○ compliance with the laws & regulations
	• Policy signed or otherwise authorized by top management & made available & communicated to employees
	• Top provides leadership & assumes responsibility for
	  ○ implementing, maintaining, & monitoring the OHSMS
	  ○ Provide financial, human, & organizational resources to plan, implement, operate, check, correct, & review the OHSMS
	  ○ Defining roles, assigning responsibilities, establishing accountability, & delegating authority to implement OHSMS
	  ○ Integrating the OHSMS into the organizations other business systems & processes
	• Establishment & implementation of processes to ensure effective participation in OHSMS by employees at all levels
	  ○ Provide employees with mechanisms, time, & resources to participate in the planning, implementation, evaluation, corrective, & preventive actions.
	  ○ Provide employees with timely access to information regarding OHSMS
	  ○ Identify & remove obstacles or barriers to participation

Planning
• Initial & Ongoing Reviews
• Assessment & Prioritization
• Objectives
• Implementation Plans & Allocation of Resources
	• Review of OHSMS to include:
	  ○ Relevant business management systems
	  ○ Hazards, risks, & controls
	  ○ Resources
	  ○ Applicable regulations, standards, & other health & safety requirements
	  ○ Assessments
	  ○ Other relevant activities (i.e. contractor activities, maintenance, & non-routine operations)
	• Process in place for ongoing review of OHSMS
	  ○ Process in place to assess & prioritize the OHSMS

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Slide 4

The Z-10 Audit

Communication of Audit results

See Example Audit Report

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Slide 5

Communication of Audit results
The Scorecard Approach
See Appendix J, p. 51 & Example Audit Report

OHSMS Audit Overall Scorecard

Program Element	Selected		Rating (See Color Scale)
	Yes	No	
Management Leadership	X		MODERATE
OHSMS Policy	X		STRONG
Responsibility and Authority	X		MODERATE
Initial and Ongoing Reviews	X		STRONG
Assessment and Prioritization	X		MODERATE
Objectives and Implementation	X		MODERATE
Use of Hierarchy of Controls	X		STRONG
Management of Change	X		MODERATE

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Slide 6

6.4 Corrective & Preventive Actions

Implement process to:
• **Address OHSMS deficiencies & inadequately controlled hazards**
• **Identify newly created hazards resulting from corrective & preventive actions – evaluate overall risk reduction**
• **Expedite action on hazards that could cause serious injury or illness**
• **Track actions taken to ensure effective implementation**

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6.4 Corrective & Preventive Actions

- Examples:
  - Written follow-up of audit results with assignment of responsibility.
  - Health & Safety committee or Health & Safety System Oversight committee
  - Assignment of responsibility and follow through by top management

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6.5 Feedback to the Planning Process

Process to ensure that the results of monitoring, measurement, audits, incident investigation, and corrective/preventive action are included in the *ongoing* planning process

Feedback is
ESSENTIAL!
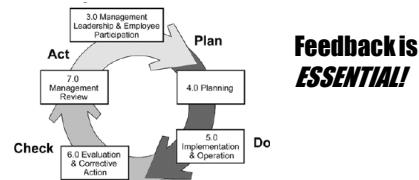
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7.0 Management Review

- 7.1 Management Review Process
- 7.2 Management Review Outcomes & follow-up

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7.1 Management Review Process

Process for *TOP MANAGEMENT* to review the OHSMS at least annually & recommend improvements to continue *suitability, adequacy, and effectiveness*.

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7.1 Management Review Process

Inputs to the Management review process shall include:

1. Progress in reduction of risk
2. Effectiveness of processes to identify, assess & prioritize risk and system deficiencies
3. Effectiveness in addressing underlying causes of risks and system deficiencies
4. Input from employees and employee representatives

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7.1 Management Review Process

Inputs to the Management review process shall include (continued):

5. Status of corrective and preventive actions & changing circumstances
6. Follow-up actions from OHSMS audits & previous management reviews
7. Extent to which objectives have been met
8. Performance of OHSMS relative to expectations

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7.1 Management Review Process

- **The Scorecard approach**
  - **(See Appendix J, p. 51 & Example Audit Report)**

OHSMS Audit Overall Scorecard

Program Element	Selected Yes	Selected No	Rating (See Color Scale)
Management Leadership	X		MODERATE
OHSMS Policy	X		STRONG
Responsibility and Authority	X		MODERATE
Initial and Ongoing Reviews	X		STRONG
Assessment and Prioritization	X		MODERATE
Objectives and Implementation	X		MODERATE
Use of Hierarchy of Controls	X		STRONG
Management of Change	X		MODERATE

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7.1 Management Review Process

"*Are there any holes*" in the current OHSMS that could allow a risk that might not be considered within the OHSMS system?

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7.2 Management Review Outcomes & Follow-Up

TOP MANAGEMENT *shall* determine:

- **Future direction of the OHSMS based on business strategies and conditions**
- **Need for changes to the organizations policy, priorities, objectives, resources, or other OHSMS elements**

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7.2 Management Review Outcomes & Follow-Up

- *ACTION ITEMS* shall be developed from the findings of the management review
- Results and ACTION ITEMS shall be documented, communicated, and tracked to *COMPLETION.*

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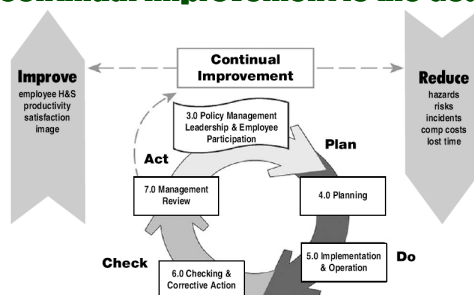# Continual Improvement is the Goal

Improve
employee H&S
productivity
satisfaction
image

Continual Improvement

Reduce
hazards
risks
incidents
comp costs
lost time

3.0 Policy Management Leadership & Employee Participation

Act

7.0 Management Review

Plan

4.0 Planning

Check

6.0 Checking & Corrective Action

5.0 Implementation & Operation

Do

Figure 2 — OHSMS Cycle

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Thank You!

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